The Best There Is™

BROWNING®

# BT-99

# TRAP SHOTGUN

OWNER'S MANUAL

## THANK YOU FOR CHOOSING A BROWNING BT-99 TRAP SHOTGUN.

We are pleased that you have chosen a Browning BT-99 Trap shotgun. In every way it is a firearm you will be proud to shoot for many years. Take time to follow this manual carefully, and you will gain real advantages that will bring out the best in your shooting ability.

With a reasonable amount of care, your BT-99 should give you many years of dependable, enjoyable shooting. Please feel free to write us immediately if you have any observations regarding its performance and operation.

## YOU ARE RESPONSIBLE FOR FIREARMS SAFETY.

As a gun owner, you accept a set of demanding responsibilities. How seriously you take these responsibilities can mean the difference between life and death. Failure to follow any of these instructions can cause extensive damage to your gun and/or possible serious injury or death to yourself and others.

**THERE IS NO EXCUSE FOR CARELESS OR ABUSIVE HANDLING OF ANY FIREARM. AT ALL TIMES HANDLE ANY FIREARM WITH INTENSE RESPECT FOR ITS POWER AND POTENTIAL DANGER.**

**READ AND UNDERSTAND ALL OF THE CAUTIONS AND PROPER HANDLING PROCEDURES OUTLINED IN THIS BOOKLET BEFORE USING YOUR NEW FIREARM.**

1 **ALWAYS KEEP THE MUZZLE OF ANY FIREARM POINTED IN A SAFE DIRECTION.** Do this even though you are certain it is unloaded. Never point any firearm at anything you do not intend to shoot. Be extremely alert and aware of all persons and property within the range of your ammunition.

2 **CAUTION: THE BT-99 SHOTGUN HAS NO MANUAL SAFETY.** A trap shooter does not load his or her gun until moments before a bird is called for. For this reason, and because trapshooting demands intense concentration on shooting technique, no manual safety is provided on your BT-99. There is then no chance for a lost bird by reason of the safety being inadvertently left "on safe."

**LOAD YOUR BT-99 TRAP GUN ONLY WHEN SHOOTING IS IMMINENT. ONCE LOADED, THIS GUN IS READY TO FIRE AND SHOULD BE RESPECTED AS SUCH.**

**NEVER TEST THE MECHANISM OF ANY FIREARM WHILE IT IS LOADED OR POINTED IN AN UNSAFE DIRECTION.**

3 **WHENEVER YOU HANDLE ANY FIREARM, OR HAND IT TO SOMEONE, MAKE SURE IT IS COMPLETELY UNLOADED.** Always open the action immediately, and visually check the chamber. Make certain that the

chamber does not inadvertently contain any ammunition. Always keep the chamber empty and the safety in the "on safe" position (remember, the BT-99 has no manual safety) unless shooting is imminent.

4 **DO NOT TRANSPORT ANY FIREARM LOADED.** Keep all firearms unloaded during transport, whether stored in a holster, gun case, scabbard or other container.

5 **BEWARE OF BARREL OBSTRUCTIONS.** Do this for the safety of both your gun and yourself. Mud, snow, and an infinite variety of other objects may inadvertently lodge in a barrel bore. It takes only one small obstruction to cause dangerously increased pressures that can ruin (swell or rupture) the finest barrels.

**BEFORE CHECKING FOR A BARREL OBSTRUCTION, BE CERTAIN YOUR FIREARM IS FULLY UNLOADED.** Make sure no live round is in the chamber by breaking open the action. Look through the barrel to be sure it is clear of any obstruction. If an obstruction is seen, no matter how small it may be, clean the bore with a cleaning rod and patch as described later in this manual. Before the first firing, clean the bore with a cleaning rod and patch, and wipe away any anti-rust compounds in the action/chamber areas.

6 **ALWAYS COMPLETELY UNLOAD ALL FIREARMS WHEN NOT IN USE.** As a safety precaution, it is preferable to disassemble your gun for storage. Store your gun and ammunition separately — well beyond the reach of children. Your responsibility does not end when your firearm is unattended. Store your firearm and ammunition separately and well beyond the reach of children. Take all safeguards to ensure that any firearm does not become available to untrained, inexperienced or unwelcome hands.

7 **USE THE PROPER AMMUNITION.** The barrel and action of all Browning firearms have been made with substantial safety margins over the pressures developed by established American commercial loads. Nevertheless, Browning assumes no liability for incidents which occur through the use of cartridges of nonstandard dimensions

which develop pressures in excess of commercially available ammunition which has been loaded in accordance with standards established by the Sporting Arms and Ammunition Manufacturers' Institute (SAAMI).

**BE ALERT TO THE SIGNS OF AMMUNITION MALFUNCTION. IF YOU DETECT AN OFF SOUND OR LIGHT RECOIL WHEN A SHELL IS FIRED, DO NOT LOAD ANOTHER SHELL INTO THE CHAMBER.**

Open the action and remove the shell from the chamber. With the action open, glance down the barrel to make sure that a wad or other obstruction does not remain in the barrel. Completely clear the barrel before loading and firing again. Failure to follow these instructions can cause extensive damage to your gun and possible serious injury to yourself and others.

**MAKE SURE OF ADEQUATE VENTILATION IN THE AREA THAT YOU DISCHARGE A FIREARM. WASH HANDS THOROUGHLY AFTER EXPOSURE TO AMMUNITION OR CLEANING A FIREARM.**

Lead exposure can be obtained from discharging firearms in poorly ventilated areas, cleaning firearms or handling ammunition. Lead is a substance that has been known to cause birth defects, reproductive harm and other serious injury.

8 **NEVER INSERT A SHELL OF THE INCORRECT GAUGE IN ANY SHOTGUN.** The gauge of your shotgun is marked on the side of the barrel. Store all shells of different gauges in completely separate and well-marked containers. Never store shells of mixed gauges in a common container or in your pockets.

**EXAMINE EVERY SHELL YOU PUT IN YOUR GUN. NEVER PUT A 20 GAUGE SHELL IN A 12 GAUGE GUN.**

The most common way to bulge or rupture a shotgun barrel is to drop a 20 gauge shell into a 12 gauge chamber. The 20 gauge shell, unfortunately, will not fall completely through the barrel; its rim is caught by the front of a 12 gauge chamber. Your gun will misfire (with the chamber appearing to be empty). It is then possible to load a 12 gauge shell behind the 20 gauge shell. If the 12 gauge shell is then

fired, the result will be a so-called "12-20 burst" which can cause extensive damage to your gun and possible serious injury to you and others.

9 **USE SHELLS OF THE CORRECT LENGTH.** Do not use 3½" shotgun shells in a shotgun or barrel with a 2¾" chamber or 3" chamber. Do not use 3" shells in a shotgun chambered for a 2¾" shells. Doing so can result in a build-up of dangerously high pressures that may damage your gun and possibly cause serious injury to yourself or others.

The size of the chamber is inscribed, along with gauge and choke designations, on the side of the barrel.

10 **DO NOT SNAP THE FIRING PIN ON AN EMPTY CHAMBER — THE CHAMBER MAY NOT BE EMPTY!** Treat every gun with the respect due a loaded gun, even though you are certain the gun is unloaded.

11 **KEEP YOUR FINGERS AWAY FROM THE TRIGGER WHILE LOADING AND UNLOADING, UNTIL YOU ARE READY TO SHOOT.**

12 **BE SURE OF YOUR TARGET AND BACKSTOP.** Particularly during low light periods. Know the range of your ammunition. Never shoot at water or hard objects.

13 **ALWAYS UNLOAD THE CHAMBER OF ANY FIREARM BEFORE CROSSING A FENCE, CLIMBING A TREE, JUMPING A DITCH OR NEGOTIATING OTHER OBSTACLES.** Never lean or place any loaded firearm on or against a fence, tree, car, or other similar object.

14 **WEAR EYE AND EAR PROTECTION WHEN SHOOTING.** Unprotected, repeated exposure to gunfire can cause hearing damage. Wear ear protectors (shooting earplugs or muffs) to guard against such damage. Wear shooting glasses to protect your eyes from flying particles. Always keep a safe distance between the muzzle of your firearm and any persons nearby, as muzzle blast, debris and ejecting shells could inflict serious injury. Also, wear eye protection when disassembling and cleaning all firearms to prevent the possibility of springs, spring-tensioned parts, solvents or other agents from contacting your eyes.

15 **DROPPING A LOADED GUN CAN CAUSE AN ACCIDENTAL DISCHARGE.** This can occur even with a firearms "safety" in the "on safe" position (remember, the BT-99 has no manual safety). Be extremely careful while hunting or during any shooting activity, to avoid dropping any firearm.

16 **IF ANY FIREARM FAILS TO FIRE, KEEP THE MUZZLE POINTED IN A SAFE DIRECTION.** Hold this position for a minimum of 30 seconds. Carefully open the action and remove the shell or cartridge. If the primer is indented, the cartridge should be disposed of in a way that cannot cause harm. If the primer is not indented, your firearm should be examined by a qualified gunsmith and the cause of the malfunction should be corrected before further use.

17 **BE DEFENSIVE AND ON GUARD AGAINST UNSAFE GUN HANDLING AROUND YOU AND OTHERS.** Don't be timid when it comes to gun safety. If you observe other shooters violating any of these safety precautions, politely suggest safer handling practices.

18 **BE CERTAIN ANY FIREARM IS UNLOADED BEFORE CLEANING.** Because so many gun accidents occur when a firearm is being cleaned, special and extreme care should be taken to be sure your gun is unloaded before disassembly, cleaning and reassembly. Keep ammunition away from the cleaning location. Never test the mechanical function of any firearm with live ammunition.

19 **SUPERVISE AND TEACH FIREARMS SAFETY TO ALL MEMBERS OF YOUR FAMILY — ESPECIALLY TO CHILDREN AND NONSHOOTERS.** Closely supervise newcomers to the shooting sports. Encourage enrollment in hunting/shooting safety courses.

20 **NEVER DRINK ALCOHOLIC BEVERAGES OR TAKE ANY TYPE OF DRUGS BEFORE OR DURING SHOOTING.** Your vision and judgment could be dangerously impaired, making your gun handling unsafe to you and to others.

21 **PERFORM PERIODIC MAINTENANCE — AVOID UNAUTHORIZED SERVICING.** Your new firearm is a mechanical device which will not last forever, and as such, is subject to wear and requires periodic inspection, adjustment, and service. Browning firearms should be

serviced by a Browning Recommended Service Center or by Browning's service facility in Arnold, Missouri. Browning cannot assume any responsibility for injuries suffered or caused by unauthorized servicing, alterations or modifications of Browning firearms.

22 **BROWNING RESERVES THE RIGHT TO REFUSE SERVICE ON FIREARMS THAT HAVE BEEN ALTERED, ADDED TO OR SUBSTANTIALLY CHANGED.** Removal of metal from barrel(s), or modification of the firing mechanism and/or operating parts may lead to Browning's refusal of service on such firearms. Browning will charge the owner for parts and labor to return the firearm to original Browning specifications.

23 **READ AND HEED ALL WARNINGS** in this instruction book, on ammunition boxes and with all accessories that you install on your firearm. It is your responsibility to secure the most up-to-date information on the safe handling procedures of your Browning gun. Browning assumes no liability for incidents which occur when unsafe or improper gun accessories or ammunition combinations are used.

**DO NOT, UNDER ANY CIRCUMSTANCES, ALTER THE TRIGGER, SAFETY (THE BT-99 SHOTGUN HAS NO MANUAL SAFETY) OR OTHER PARTS OF THE FIRING MECHANISM OF THIS OR ANY OTHER FIREARM. FAILURE TO OBEY THIS WARNING MAY RESULT IN INJURY OR DEATH TO YOURSELF OR OTHERS.**

## BE CAREFUL!

## NOMENCLATURE

In conventional gun terminology, the position and movement of gun parts are described as they occur with the gun horizontal and in normal firing position; i.e., the muzzle is forward or front; butt stock is rearward or rear; trigger is downward or underneath; the rib is upward or on top. For general parts nomenclature refer to Figure 1. For specific parts names related to disassembly see Figure 2.

FIGURE 1

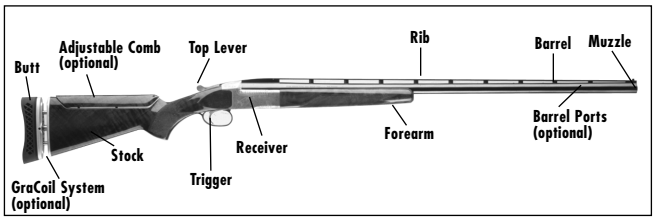
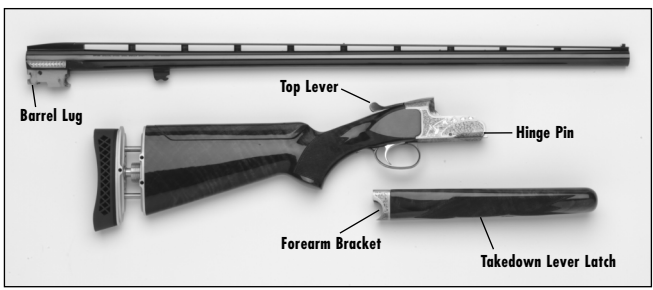



FIGURE 2




## SERIAL NUMBER

The serial number of your BT-99 can be found on the top tang under the top lever. Record this number for future reference.

## AMMUNITION

All BT-99 Models are designed to shoot and function with 2¾" 12 gauge trap loads only. Browning can assume no responsibility for incidents which occur through the use of cartridges of nonstandard dimension or those developing pressures in excess of industry standards established by the Sporting Arms and Ammunition Manufacturer's Institute (SAAMI).

**CAUTION: DO NOT USE 3" OR 3½" SHOTGUN SHELLS IN ANY SHOTGUN OR BARREL WITH A 2¾" CHAMBER. THE SIZE OF THE CHAMBER IS INSCRIBED ALONG WITH GAUGE AND CHOKE DESIGNATIONS, ON THE SIDE OF THE BARREL.**

## INITIAL CLEANING

Various exposed metal parts of your new BT-99 have been coated at the factory with a rust preventative compound. Before assembling your BT-99, clean the anti-rust compound from the inside of the barrel and chamber, and generally wipe clean the metal surfaces at the rear of the forearm, on the barrel lug and the interior areas of the receiver, as well as any other parts coated with this compound. Browning Oil is ideal for wiping and cleaning these parts and for giving your gun its first lubrication.

Clean the barrel using a cleaning rod and patch as explained under "Cleaning Suggestions." Read this entire manual before performing the first cleaning, to learn necessary information on breaking open the action, etc.

## ASSEMBLY PROCEDURES

**BEFORE BEGINNING THE ASSEMBLY PROCESS, ALWAYS MAKE CERTAIN THERE IS NO SHELL IN THE CHAMBER.**

1 After wiping the mechanism clean, place one or two drops of a quality oil, like Browning Oil, on the following surfaces (Figures 3-A, 3-B and 3-C):

FIGURE 3-A

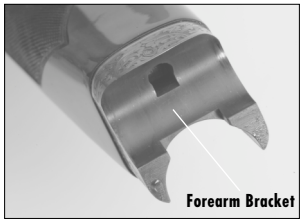



FIGURE 3-B

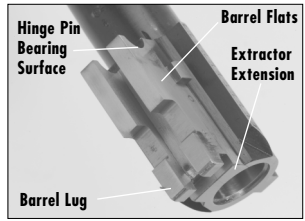
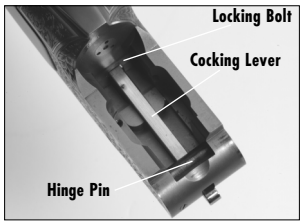



FIGURE 3-C




3-A) The forearm bracket.

3-B) Barrel lug, hinge pin bearing surface, extractor extension and barrel flats.

3-C) Hinge pin, cocking lever and locking bolt.

2 To attach the barrel to the action, grasp the stock's pistol grip with your right hand and anchor the butt stock between your right forearm and right side. With the thumb of your right hand, move the top lever sideways to the extreme right (Figure 4).

3 Grasping the barrel in the left hand, engage the barrel lug's circular recess with the action's hinge pin (Figure 5). Keeping pressure on the barrel to keep the hinge pin aligned in the barrel lug's circular recess, rotate the barrel upward, fully closing the action (Figure 6).

4 Release the top lever. It should snap back to its central position.

5 Place the butt of the gun's stock against your upper leg to support it.

Engage the rear portion of the forearm (forearm bracket) with the action (Figure 7).

6 Pivot the forearm up to the barrel tightly. This will cause the takedown lever latch to engage onto the barrel. It may be necessary to depress the takedown lever latch. It should be flush with the wood on the underside of the forearm. The forearm and latch can be installed in one motion by positioning the forearm as shown and tapping the forearm's widest part sharply toward the barrel with the heel of your hand (Figure 8). The takedown lever latch should then automatically lock into position.

**CAUTION — WHEN ASSEMBLING YOUR BT-99 SHOTGUN, DO NOT USE UNDUE FORCE IN CLOSING THE ACTION.**

If the action and barrel are not properly aligned, undue force will only cause them to grind together and score or mar the finely fitted surface. If there appears to be interference, start over at Step 2, being careful to mate and align the barrel lug and the receiver hinge pin properly.

FIGURE 4

FIGURE 5

FIGURE 6

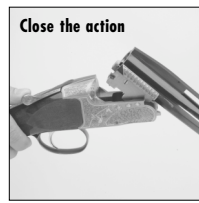



FIGURE 7

FIGURE 8

## DISASSEMBLY PROCEDURES

Disassembling your BT-99 into two parts — the action/buttstock and the barrel/forearm — is ideal for storage or for cleaning and maintenance.

**BEFORE BEGINNING ANY DISASSEMBLY PROCEDURES, MAKE CERTAIN THERE IS NOT A SHELL IN THE CHAMBER.**

1 With the action closed, anchor the buttstock against your upper leg and pull the takedown lever latch outward.

2 At the same time, grasp the forearm with the other fingers of the left hand and with the help of the right hand pivot the forearm away from the barrel (Figure 9). Set the forearm aside.

3 Break open the action in the usual manner.

4 Carefully disengage the barrel lug from the hinge pin and lift the barrel upward out of the action.

5 Reattach the forearm to the barrels as explained previously, except with the barrels separated from the receiver. This is an ideal way to store your shotgun — in two separate pieces.

FIGURE 9

**Pivot the forearm away from the barrel**

## NO MANUAL SAFETY

**CAUTION: REMEMBER, THE BT-99 SHOTGUN HAS NO MANUAL SAFETY. THE BT-99 IS DESIGNED SOLELY FOR TRAP SHOOTING.**

A trap shooter does not load his or her gun until moments before a bird is called for. For this reason, and because trapshooting demands intense concentration on shooting technique, no manual safety is provided. There is then no chance for a lost bird by reason of the safety being inadvertently left "on safe."

**LOAD YOUR BT-99 TRAP GUN ONLY WHEN SHOOTING IS IMMINENT. ONCE LOADED, THIS GUN IS READY TO FIRE AND SHOULD BE RESPECTED AS SUCH.**

Always keep the muzzle of your shotgun pointed down range at all times when on the shooting line. When leaving or moving along the line always open the action. Never load the chamber until you are ready to shoot. Never have the action of your BT-99 closed except when you are on the line, ready to shoot, when your gun is cased, or when it is set in a gun rack at the range. When you retrieve your gun from its case or from a gun rack, always immediately open the action and check to assure that no shell is in the chamber.

**ALWAYS KEEP THE MUZZLE OF YOUR BT-99 POINTED IN A SAFE DIRECTION. FAILURE TO FOLLOW THE ABOVE INSTRUCTIONS COULD RESULT IN INJURY OR DEATH TO YOURSELF OR OTHERS.**

## GENERAL OPERATING PROCEDURES

Highly skilled techniques of hand-fitting and polishing have been used to accomplish the hairline fitting of metal parts on this gun. These painstaking operations are necessary to prevent looseness, even after long use. You may consider your new gun to be slightly stiff. This close fitting, however, assures you of long lasting dependability.

**OPERATION OF THE TOP LEVER —**

The top lever operates the locking bolt, which is very closely hand-fitted to its barrel lugs. Provision is made for the gradual wear of locking surfaces by allowing a slight excess of metal. This exacting metal allowance keeps the breech of the gun tight for many years.

Upon closing your gun, let the top lever snap into position — do not retard its action with your thumb. If closed in this manner, the top lever spring will return the top lever mechanism to the locked position. It is not necessary that the top lever return to a completely central position; in fact, it usually will not do so in a new gun. Many experienced shooters cultivate the habit of lightly pushing the top lever to the left after the gun is closed. It becomes automatic and is a quick method of assuring yourself that foreign matter has not interfered with the complete closure of the breech.

The breech is so tightly hand-fitted that foreign matter, sand, etc. may prohibit complete closing.

**IF THE BREECH WILL NOT CLOSE COMPLETELY, UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO FIRE THE SHOTGUN.**

Break the action of the gun and unload it. Carefully examine the breech surfaces, and remove the foreign matter. Remember to always keep the polished breech surfaces clean and lightly oiled.

**LOADING —**

**CAUTION: REMEMBER, THE BT-99 SHOTGUN HAS NO MANUAL SAFETY. LOAD YOUR BT-99 TRAP GUN ONLY WHEN SHOOTING IS IMMINENT. ONCE LOADED, THIS GUN IS READY TO FIRE AND SHOULD BE RESPECTED AS SUCH. AT ALL TIMES DURING THE LOADING AND UNLOADING PROCEDURES BE SURE YOUR MUZZLE IS POINTING DOWN RANGE, IN A SAFE DIRECTION.**

1 Break the action as explained above.

2 Insert a shell fully into the chamber.

3 Close the action by lifting up on the forearm. The lever will snap back to center when properly closed. Remember, keep your finger away from the trigger until you are ready to shoot.

**UNLOADING —**

1 Open the action by pushing the top lever to the right, as explained previously.

2 Pull down on the forearm. The BT-99 has an automatic extractor extension. This means that a shell — fired or unfired — will lift from the chamber of the shotgun when the action is broken open and be conveniently lifted slightly out of the chamber for easy removal with your fingers.

Remember, never have the action of your BT-99 closed except when you are on the line ready to shoot, when your gun is cased, or when it is set in a gun rack at the range. Also, never load the chamber until you are ready to shoot. It is a courtesy to other shooters, and a wise safety practice, to keep your action open and unloaded at all other times.

**FIRING —**

With the chamber loaded, and the action closed, the BT-99 is fired by simply pulling the trigger. Never pull the trigger unless the muzzle is pointed down range, at the clay target. Make sure people — other shooters, spectators, trap operators — are not down range. If there is any doubt about down range safety, open the action immediately and remove the shell until you are certain all conditions are safe.

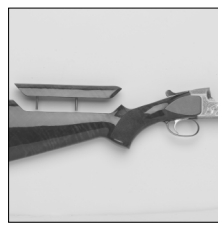
## OPTIONAL BARREL PORTING

Your BT-99 may or may not have optional barrel porting. The drilled holes in the top of the barrel are desired by some shooters for their tendency to reduce barrel jump and give a feeling of lower recoil against the face. They require only an occasional cleaning as described under "Cleaning Suggestions" later in this manual.

## BT-99 MODELS WITH ADJUSTABLE COMB

Some BT-99 shotguns feature an adjustable comb on the stock (Figure 10). The adjustable comb can be adjusted the achieve a perfect, personalized fit for the shooter. When properly adjusted, this feature will allow for a customized sight picture for faster target acquisition and better accuracy.

FIGURE 10



**Adjustable Comb**

## ADJUSTING CAST ON AND CAST OFF

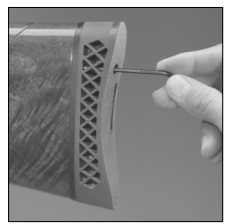
This adjustment allows you to adjust for cast on and cast off to achieve a perfect fit of the stock against your face. This is a most crucial adjustment, as it determines how correctly and consistently your eye will line up with the sight plane along the barrel rib. A shotgun correctly adjusted for cast on and cast off will have you looking directly down the center of the rib with the front and middle beads in alignment.

The adjustable comb features an adjustment range of ¼" for cast on and cast off adjustment in 1/16" increments. Cast on and cast off angle adjustments of a maximum of ⅛" are also possible. To adjust cast on and cast off perform the following procedure:

**BEFORE PERFORMING ANY ADJUSTMENTS, ALWAYS MAKE CERTAIN THERE IS NO SHELL IN THE CHAMBER.**

1 STANDARD MODEL: Loosen the comb by inserting a 7/64" Allen wrench through the hole found on the upper left of the recoil pad and into the Allen screw located within the recoil pad (Figure 11). Turn wrench counterclockwise three full turns to loosen Allen screw. This will sufficiently loosen the Adjustable Comb, allowing adjustments to be easily made. The cheek piece comes set from the factory with cast in the center position.

FIGURE 11



Standard Model

GRACOIL MODEL: Remove the butt plate by inserting a 3/32" Allen wrench into the single hole on the right side of the butt plate and turn the set screw counterclockwise two turns to loosen the screw (Figure 12). Removing the butt plate gives access to the the hole found on the upper left of the stock plate. (Figure 13). Loosen the comb by inserting a 7/64" Allen wrench through the hole found on the upper left of the stock plate and into the Allen screw located within the stock plate (Figure 14). Turn wrench counterclockwise three full turns to loosen Allen screw. This will sufficiently loosen the Adjustable Comb, allowing adjustments to be easily made. The cheek piece comes set from the factory with cast in the center position.

FIGURE 12

GraCoil Equipped Model

2 Carefully adjust comb to desired cast on or cast off position (Figure 15) by sliding each post equally in the desired direction. *CAST ON AND CAST OFF ADJUSTMENTS ARE A MATTER OF TRIAL AND ERROR.* Adjust in small increments until the desired sight picture on the rib is reached. Each increment represents 1/16". Move the posts to the right for cast off and to the left for cast on.

3 Right handed shooters may desire some cast off, with left handed shooters preferring some cast on. The terminology is the same for right or left-handed shooters. The net effect is to move the cheek piece to allow the face to move farther over the stock for better eye-to-rib alignment.

4 When properly set, the front and rear sight beads should line up perfectly each time you shoulder your shotgun.

5 STANDARD MODEL: Once desired cast has been obtained, tighten the Allen screw in the recoil pad. The screw needs to be firmly tightened, but be careful not to over tighten. If drop at comb has not been set, leave the Allen screw loose and proceed to "Adjusting Drop at Comb."

GRACOIL MODEL: Once desired cast has been obtained, tighten the Allen screw in the stock plate. The screw needs to be firmly tightened, but be careful not to over tighten. If drop at comb has not been set, leave the Allen screw loose and proceed to "Adjusting Drop at Comb."

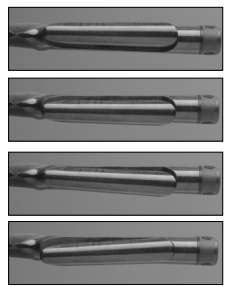
FIGURE 13

**GraCoil Equipped Model**

FIGURE 14

**GraCoil Equipped Model**

FIGURE 15



**With Allen screw loose, adjust comb to desired position**

Unless adjusting drop at comb, reinstall the butt plate by sliding it back into the stock and tighten the set screws using the 3⁄32" Allen wrench. Do not over tighten.

## ADJUSTING DROP AT COMB

Adjusting the drop at the comb allows you to align your eye perfectly with the plane of the rib. A correct sight picture for most shooters should have you looking down the rib with the bottom of the front bead resting on the top of the middle bead. This forms a "figure eight" or "stacked" configuration. Some of the rib will be showing as you sight down, but no rib will show between the beads. The important thing is to line up correctly each time you shoot.

The Adjustable Comb has an height adjustment range of 11 increments, at 1⁄16" per increment, resulting in approximately 5⁄8" of height adjustment. **CAUTION: DO NOT GO BEYOND THE RANGE OF ADJUSTMENT INCREMENTS. SHOULD THIS OCCUR, THE COMB WILL NOT BE PROPERLY SECURED AND COULD RESULT IN DAMAGE TO THE FIREARM.**

The drop measurement is determined by measuring the distance between the plane formed by the top of the rib and the top of the cheekpiece itself. The higher the cheekpiece, the lower the drop. To set drop perform the following:

**BEFORE PERFORMING ANY ADJUSTMENTS, ALWAYS MAKE CERTAIN THERE IS NO SHELL IN THE CHAMBER.**

1 STANDARD MODEL: Loosen the comb by inserting a 7⁄64" Allen wrench through the hole found on the upper left of the recoil pad and into the Allen screw located within the recoil pad (Figure 11). Turn wrench counterclockwise three full turns to loosen Allen screw. This will sufficiently loosen the Adjustable Comb, allowing adjustments to be easily made. The cheekpiece comes set from the factory with comb in the lowest position.

GRACOIL MODEL: Remove the butt plate by inserting a 3⁄32" Allen wrench into the single hole on the right side of the butt plate and turn the set screw counterclockwise two turns to loosen the screw (Figure 12). Removing the butt plate gives access to the the hole found on the upper left of the stock plate. (Figure 13). Loosen the

comb by inserting a 7/64" Allen wrench through the hole found on the upper left of the stock plate and into the Allen screw located within the stock plate (Figure 14). Turn wrench counterclockwise three full turns to loosen Allen screw. This will sufficiently loosen the Adjustable Comb, allowing adjustments to be easily made. The cheek-piece comes set from the factory with comb in the lowest position.

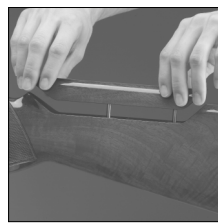
2 With Allen screw loose, carefully adjust comb to desired position (Figure 16) by sliding each post equally in the desired direction. *DROP AT COMB ADJUSTMENTS ARE A MATTER OF TRIAL AND ERROR.* Adjust in small increments until the desired sight picture on the rib is reached. Each increment represents 1/16".

3 To decrease drop at comb, carefully slide each post up equally. To increase drop at comb, carefully slide each post down equally. Sliding each post equally will reduce the chance of the comb binding.

4 STANDARD MODEL: Once your desired drop at comb is obtained, tighten the Allen screw in the recoil pad. The screw needs to be firmly tightened, but be careful not to over tighten. Drop is now set on your shotgun.

GRACOIL MODEL: Once your desired drop at comb is obtained, tighten the Allen screw in the stock plate. The screw needs to be firmly tightened, but be careful not to over tighten. Drop is now set on your shotgun.

FIGURE 16



**With Allen screw loose, adjust comb to desired position**

Reinstall the butt plate by sliding it back into the stock and tighten the set screws using the 3/32" Allen wrench. Do not over tighten.

## THE GRACOIL SYSTEM

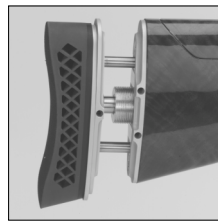
Some BT-99 shotguns feature the GraCoil system (Figure 17). This highly adjustable unit allows you to tailor the gun to suit your specific fit requirements. The GraCoil system features an adjustable compression unit to reduce recoil, adjustable length of pull and an adjustable butt plate.

The guide pins on the butt plate run on Teflon® bushings (Figure 18). This ensures long life and smooth action of the GraCoil recoil reduction system. An occasional cleaning and light lubrication of the guide pins will prevent premature wear. A light oil is suitable for lubrication.

## ADJUSTING THE GRACOIL RECOIL REDUCTION SYSTEM

When making adjustments to the GraCoil system's compression unit, be aware that the unit should be adjusted to the shooter, not to the shell size or loads being fired. When adjusted properly, the recoil from the shotgun will activate the GraCoil system, effectively reducing the recoil felt by the shooter.

FIGURE 17



GraCoil System

The GraCoil recoil reduction system features adjustable compression range from 14-70 lbs. with a 5⁄16" maximum stroke. To adjust the GraCoil system, perform the following:

FIGURE 18

**BEFORE PERFORMING ANY ADJUSTMENTS, ALWAYS MAKE CERTAIN THERE IS NO SHELL IN THE CHAMBER.**

1 Loosen the butt plate by inserting a 3⁄32" Allen wrench into the single hole on the right side of the butt plate and turn the set screw counterclockwise two turns to loosen the screw (Figure 19).

2 Remove the butt plate by pulling it straight out. This exposes the center shaft where adjustments are made (Figure 20).

3 Insert the 3⁄32" Allen wrench into the hole in the center shaft and turn the wrench clockwise (light) to decrease the compression to the lightest setting. Do not force the compression adjustment screw.

4 Reinstall the recoil pad by tightening the two screws with the 3⁄32" Allen wrench.

5 To personalize the GraCoil recoil reduction system, bring the gun to your shoulder as if you are ready to call for a target. If the unit compresses when you perform this action, the compression of the unit is set too light. Remove the pad again according to Step 2 and increase the compression ONE TURN by inserting the 3/32" Allen wrench into the hole in the center shaft and turning the wrench counterclockwise (heavy) to increase compression. *COMPRESSION ADJUSTMENTS ARE A MATTER OF TRIAL AND ERROR.* Adjust ONE TURN at a time until the unit ceases to compress when brought to the shoulder. If the compression is set too light, there will be excess motion from the gun when shouldering, thus affecting accuracy. If the compression is set too heavy, more recoil will be felt.

FIGURE 19

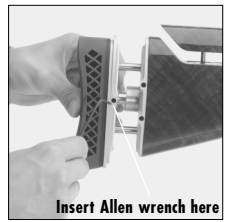
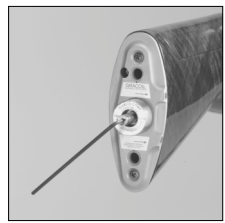



FIGURE 20



**PROPER ADJUSTMENT OF THE GRACOIL SYSTEM IS ESSENTIAL. FAILURE TO PROPERLY ADJUST THE COMPRESSION COULD RESULT IN PERSONAL INJURY. IF THE TENSION IS SET TOO LIGHT, THE UNIT COULD COMPRESS ENOUGH TO PINCH THE SHOOTER, RESULTING IN INJURY.**

6 Once the gun can be shouldered without compressing the GraCoil system, the system is properly set-up and will effectively absorb recoil without affecting accuracy.

7 Reinstall the butt plate by sliding it back into the stock and tighten the set screws using the 3/32" Allen wrench. Do not not to over tighten the set screws.

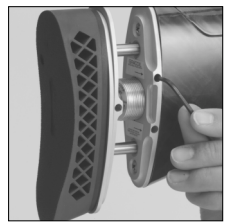
## ADJUSTING LENGTH OF PULL

The GraCoil system on your BT-99 shotgun also allows up to 1" of length of pull adjustment. To adjust the GraCoil system for length of pull, perform the following:

**BEFORE PERFORMING ANY ADJUSTMENTS, ALWAYS MAKE CERTAIN THERE IS NO SHELL IN THE CHAMBER.**

1 With a 7⁄64" Allen wrench, loosen the two set screws on the right side of the stock plate by turning them counterclockwise one turn (Figure 21).

FIGURE 21



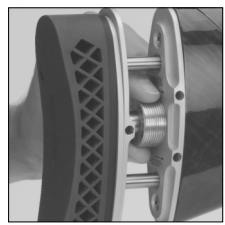
2 Loosen the butt plate by inserting a 3⁄32" Allen wrench into the single hole on the right side of the butt plate and turn the set screw counterclockwise two turns to loosen the screw (Figure 19).

3 With your fingers, turn the large, threaded center shaft clockwise to decrease the length of pull and counterclockwise to increase length of pull (Figure 22). Do not use a wrench or pliers to turn the center shaft. Damage to the shaft will occur.

4 *LENGTH OF PULL ADJUSTMENT IS A MATTER OF TRIAL AND ERROR.* Adjust in small increments until desired length of pull has been reached.

5 When the desired length of pull has been achieved, tighten the two set screws on the stock plate using the 7⁄64" Allen wrench and single set screw on butt plate using the 3⁄32" Allen wrench. Do not over tighten the set screws.

FIGURE 22



6 It is possible that the settings on the recoil reduction unit of your shotgun may have changed after adjusting the length of pull. Before firing your shotgun, check to make sure your settings have not changed. If

they have, refer to the last section and follow the directions to adjust the recoil reduction unit to your needs.

## ADJUSTING THE PAD PLATE

The pad plate on your BT-99 shotgun is fully adjustable to aid in your comfort and the accuracy of your shotgun (Figure 23). To adjust the GraCoil system pad plate, perform the following:

**BEFORE PERFORMING ANY ADJUSTMENTS, ALWAYS MAKE CERTAIN THERE IS NO SHELL IN THE CHAMBER.**

1 Remove the recoil pad by inserting a 3⁄32" Allen wrench into the two openings in the recoil pad and removing the two screws in the rear of the recoil pad (Figure 24). To prevent damage to the recoil pad, place a small amount of petroleum jelly on the Allen wrench. This will prevent the Allen wrench from grabbing and possibly tearing the recoil pad.

2 With a 3⁄32" Allen wrench, loosen the two set screws used to keep the cam locks in place (Figure 25).

3 Both screws have a series of six holes that can be used for a wide range of pad plate adjustment. *PAD PLATE ADJUSTMENT IS A MATTER OF TRIAL AND ERROR.* Adjust in small increments until the desired pad plate position has been reached.

4 Once the desired pad plate location is reached, tighten the two set screws that keep the cam locks in place with the 3⁄32" Allen wrench. Do not over tighten the set screws.

FIGURE 23

**Adjustable Pad Plate**

FIGURE 24

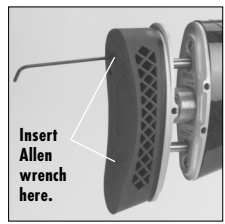
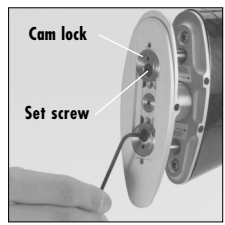



FIGURE 25



5 Reinstall the recoil pad by tightening the two screws with the 3⁄32" Allen wrench.

## INVECTOR-PLUS™ CHOKE TUBE SYSTEM

New model BT-99 shotguns feature a barrel fitted with the Invector-Plus™ choke tube system. Older BT-99s may also have the Standard Invector™ tube system or a conventionally choked barrel. The Invector-Plus system is a screw in choke tube system with interchangeable tubes. You can confirm this by reading the inscription on the right side of the barrel.

FIGURE 26

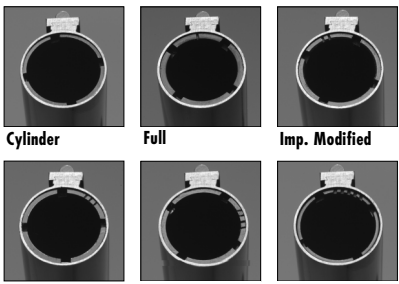
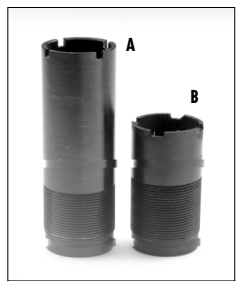



FIGURE 27




**A — Invector Plus™ choke tube**
**B — Standard Invector™ choke tube**

| MARKING ON BARREL | TYPE OF CHOKE |
|---|---|
| Invector™ | Standard Invector Choke Tube System |
| Invector-Plus™ | Invector-Plus Back-Bored Choke Tube System |
| No Choke Marking on Barrel | Conventionally Choked Barrel |

**Available 12 Gauge Invector-Plus™ tubes:**

| RIM NOTCHES | CHOKE DESIGNATION WITH LEAD | CHOKE DESIGNATION WITH STEEL |
|---|---|---|
| X on side of tube | X-Full Special | ✶ |
| I | Full | ✶✶ |
| II | Improved Modified | Full |
| III | Modified | Improved Modified |
| IIII | Improved Cylinder | Modified |
| IIIII | Skeet | Improved Cylinder |
| No notches | Cylinder | Cylinder |

The words INVECTOR-PLUS mean your shotgun uses the Invector-Plus choke tube system designed for use in Browning 12 gauge shotguns with back-bored barrels. The extra length, combined with special tube tapers, gives the finest possible patterns for target shooters. Plus, you retain the same choke switching convenience of the Standard Invector system. Invector choke tubes are all fully steel and lead shot compatible. A special choke tube wrench is provided to remove and tighten these tubes.

CAUTION: Invector-Plus tubes are for use in Browning shotguns with Browning back-bored barrels only (.745" + 0 - .005), and are not interchangeable with 12 gauge Standard Invector choke tubes. Do not use Invector-Plus tubes in barrels threaded for Standard Invector tubes. Do not use Standard Invector tubes in barrels threaded for Invector-Plus tubes. Failure to follow these warnings may cause damage to your gun and cause injury to yourself and others.

NOTE: If your BT-99 has Standard Invector or Invector-Plus choke tubes, carefully adhere to the following instructions.

**DO NOT FIRE THIS SHOTGUN WITHOUT HAVING AN INVECTOR CHOKE TUBE INSTALLED. PERMANENT DAMAGE MAY RESULT TO THE THREADS INSIDE THE BARREL.**

**DO NOT USE BROWNING INVECTOR CHOKE TUBES IN ANY SHOTGUN BARRELS NOT SUPPLIED BY BROWNING. ALSO, DO NOT USE ANY OTHER CHOKING DEVICE IN ANY SHOTGUN BARRELS SUPPLIED BY BROWNING. USE ONLY THE APPROPRIATE GAUGE AND TYPE OF CHOKE TUBES MARKED INVECTOR OR INVECTOR-PLUS.**

**CAUTION: WHENEVER HANDLING ANY SHOTGUN FOR THE PURPOSE OF REMOVING OR INSTALLING A CHOKING DEVICE, MAKE ABSOLUTELY CERTAIN THE GUN IS FULLY UNLOADED AND THE ACTION IS BROKEN OPEN! NEVER ATTEMPT TO REMOVE OR INSTALL A SHOTGUN CHOKING DEVICE ON A LOADED FIREARM!**

**TUBE REMOVAL—**

1 Fully unload your BT-99.

**ALWAYS UNLOAD YOUR SHOTGUN — FULLY. INSPECT THE CHAMBER TO MAKE SURE IT DOES NOT CONTAIN ANY SHELLS.**

2 Open the action using the top lever as explained previously.

3 Use the Invector wrench to loosen the tube, turning it counterclockwise. Finger twist the tube the rest of the way out of the barrel.

**TUBE INSTALLATION—**

1 Fully unload your BT-99.

**ALWAYS UNLOAD YOUR BT-99 — FULLY. INSPECT THE CHAMBER TO MAKE SURE IT DOES NOT CONTAIN ANY SHELLS.**

2 Open the action.

3 Before installing a tube, check the internal choke tube threads in the muzzle, as well as the threads on the Invector choke tube to be sure they are clean. Lightly oil the threads with an oil like Browning Oil.

4 Using your fingers, screw the appropriate tube into the muzzle end of the barrel, tapered end first, notched end outward. When it becomes finger-tight, use the appropriate Invector choke tube wrench to firmly seat the tube.

**THE INVECTOR CHOKE TUBE SHOULD BE PERIODICALLY CHECKED TO ASSURE THAT IT IS TIGHT AND FIRMLY SEATED. BEFORE CHECKING, FOLLOW THE SAFETY GUIDELINES OUTLINED PREVIOUSLY.**

Replacement and additional tubes and wrenches are available from your Browning dealer, or by writing:

Browning Consumer Department
One Browning Place
Morgan, Utah 84050-9326
(801) 876-2711

Canadian customers please call or write:
Browning Canada Sports Ltd./Ltee
5617 Chemin St-Francois
St-Laurent, Quebec H4S 1W6
(514) 333-7261

**INVECTOR TUBE IDENTIFICATION —**

To identify individual Invector tubes, refer to the abbreviated indications on the side of the tube, or use the identification notches located on the top rim of each tube. (Figures 26 and 27).

**SELECTING THE CORRECT INVECTOR CHOKE TUBE —**

Although your BT-99 is designed solely for target use with lead shot loads, the Invector choke system is fully compatible with factory steel shot loads as well. For your information only, on the chart below we have included steel shot information in addition to the lead shot choke/pattern specifications you will need. Both lead and steel designations have proven necessary for hunters using other Browning guns with Standard Invector and Invector-Plus tubes because in any given tube, steel shot gives a different pattern than lead shot. In fact, even larger steel shot diameters result in different patterns than smaller steel shot sizes. Each designation is inscribed on each choke tube. Remember, you will only need to refer to the lead shot

designations when selecting a proper tube for your BT-99, as your new shotgun is unsuitable for any hunting use.

## CONVENTIONALLY CHOKED BARRELS

If you have a BT-99 with a conventionally choked barrel it is also easy to determine choke constriction. Constriction of conventionally choked barrels is shown with a neat, clearly defined mark found at the chamber end of the barrel, on the left side surface of the polished barrel lug. The coding is as follows:

| MARKING ON LEFT BARREL LUG OF A CONVENTIONALLY CHOKED BARREL | AMOUNT OF CHOKE |
|---|---|
| * | Full Choke |
| *- | Improved Modified |
| ** | Modified |

To determine the choke of an Invector tube see the section titled "Invector-Plus™ Choke Tube System" above.

## CLEANING SUGGESTIONS

The BT-99 is a target gun, and as such will function better and more reliably over a longer period of time if it is properly maintained and kept clean.

**BEFORE PERFORMING ANY CLEANING PROCEDURES, ALWAYS MAKE CERTAIN THERE IS NO SHELL IN THE CHAMBER.**

You should clean your BT-99 after every day of shooting, and more often if it becomes excessively dirty. A minimum cleaning includes wiping down the action and oiling key parts. Most regular maintenance will also include cleaning the barrel. If you encounter a function problem (tight action when closing, etc.), be sure to give your gun a thorough cleaning to see if it solves the problem before seeking the services of a Browning Recommended Service Center or the Browning Service Facility in Arnold, Missouri, or a competent gunsmith.

A light cleaning means oiling and wiping down. It can be accomplished with the barrel still attached. A full cleaning requires that you remove the barrel and forearm. To clean your firearm follow the general outline below:

**CLEANING PROCEDURES —**

**BE CERTAIN YOUR GUN'S CHAMBER IS UNLOADED. ALWAYS WEAR PROTECTIVE SAFETY GLASSES DURING ALL ASSEMBLY, DISASSEMBLY AND CLEANING PROCEDURES. KEEP AMMUNITION AWAY FROM THE CLEANING AREA. DO NOT TEST THE FUNCTION OF YOUR FIREARM WITH LIVE AMMUNITION.**

1 Remove the barrel and forearm from the receiver as explained previously.

2 Using a shotgun cleaning rod, with tip and patch large enough for a snug fit in the bore, insert the rod and lightly oiled patch in the breech end of the barrel and run back and forth several times.

3 Inspect the bore from both ends for leading and plastic residue. Plastic residue is often left in the bore from the shot cups in modern shotshells. Leading and plastic residue will appear as longitudinal streaks and are usually more predominant near the muzzle and just forward of the chamber. A normal amount of either is common and is not serious.

4 If leading or plastic residue seems excessive you can remove it by brushing the bore with a brass brush. Soak the brush or spray the bore with powder solvent first. Scrub until clean. To prevent bristles from breaking off, push the brush fully through each time before pulling it back through.

5 If your shotgun has barrel ports, carefully clean them with a rag soaked in powder solvent. You may need to scrape residues from the holes with a pipe cleaner or a small nylon brush. Be careful not to mar the blueing on the barrel's outer surface, or scratch the inside of the barrel.

6 After all leading and residues have been removed run a clean dry patch through the bore. Follow this with a final, lightly oiled patch.

7 Wipe all metal surfaces of the receiver, forearm and barrel with clean rag. Then lightly oil your gun at the points described in step 1 under "Assembly Procedures." Regular, light oiling is extremely important to the durability and reliable operation of your shotgun.

Remember, the broad, polished, finely fitted surfaces of the receiver an forearm mechanisms (the ejector slide, the hinge pin, and on each side of the barrel receiver walls), must always have a thin film of oil. Use a quality oil like Browning Oil for this purpose.

8 Inspect the barrel and chamber **TO BE CERTAIN NO PATCHES HAVE INADVERTENTLY BEEN LEFT IN THEM.** Remove any that remain.

9 Wipe all wood surfaces with Browning Oil or a quality furniture polish, but not both.

**OTHER CLEANING SUGGESTIONS —**

- Never pour large quantities of oil into the receiver or other parts. It can drain down to the wood and soften it — and cause permanent damage and loosening of the stock.
- It is very important that the chamber of your shotgun be cleaned thoroughly and promptly after shooting plastic shotshells. **DO NOT LEAVE A DISCHARGED (EMPTY) SHELL IN THE CHAMBER FOR ANY LENGTH OF TIME.** The chemical composition of many plastic shells contains moisture which can "sweat" out of the shell and onto the chamber surface, and possibly cause corrosion and rust.

**NEVER ATTEMPT TO TAKE YOUR BT-99 APART FURTHER THAN EXPLAINED IN THIS MANUAL.**

This is a specialized, finely fitted mechanism. You may permanently mar it by attempting to disassemble the inner mechanism assemblies. If further disassembly for service or cleaning is required, take your gun to a Browning Recommended Service Center, the Browning Service Facility in Arnold, Missouri, or a competent gunsmith as explained under "Service or Repair."

## SERVICE OR REPAIR

If your firearm should require service or repairs, we suggest you first contact a local recommended Browning Firearms Service Center. Contact your Browning sporting goods dealer or call our Service Department for the address of the Service Center nearest you. Otherwise, you may send your firearm directly to our own Service Department. For technical questions about your firearm or service, contact:

Browning Service Department
One Browning Place
Arnold, Missouri 63010-9406
Phone 1-800-322-4626

Canadian customers call or write:

Browning Canada Sports Ltd./Ltee,
5617 Chemin St-François
St-Laurent, Quebec H4S 1W6
Phone: (514) 333-7261

When returning your firearm for servicing, you must do the following:

1. Be sure your firearm is completely unloaded.
2. Package your firearm securely in a cardboard container.
3. Enclose a letter with your firearm that clearly describes the trouble experienced and the repairs desired.
4. If convenient, send a copy of the letter to us separately.
5. Never return ammunition with your firearm. It is against postal and most commerce regulations.

If you have any questions about this manual or about any other Browning products, call or write our Consumer Information Department:

Browning Consumer Information
One Browning Place
Morgan Utah 84050
Phone: (801) 876-2711

**BROWNING.COM**
**BROWNING US:** Morgan, Utah 84050-9326
**BROWNING CANADA:** Browning Canada Sports Ltd/Ltee,St-Laurent, Quebec, H4S 1W6
**BROWNING INTL:** Parc Industriel des Hauts-Sarts, B-4040 Herstal, Belgium

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